

** Proposed Amendment NOT Entered
For Interview² only* *24
4/15/05*

Amendments to the Claims:

This listing of claims will replace are prior versions and listings of claims in this application:

Listing of Claims:

Claim 1 (Currently Amended)

A method for fabricating a functional dental element using a three-dimensional printing technique comprising,

applying successive layers of powder wherein layers of a suitable material are successively applied onto each other to form the dental element;

wherein the suitable material is a powder and wherein the bonding between the layers is realized by means of a binder; wherein each layer is bonded at desired positions to a preceding layer thereby allowing the removal of excess, non-adhering material;

wherein the element obtained is subjected to a sintering the dental element to form step which forms necks between the powder particles; and

subjecting the sintered dental element is subjected to infiltration by a second phase.

Claim 2 (Previously Presented)

A method according to claim 1, wherein the sintering step is preceded by a debinding step.

Claim 3 (Previously Presented)

A method according to claim 1, wherein the shape and dimensions of the dental element are measured in a patient using an optical scan technique.

Claim 4 (Previously Presented)

A method according to claim 21, wherein the laser technique yields data about shape and dimensions in electronic form.

DRAFT - DO NOT ENTER

DRAFT - DO NOT ENTER

Claims 5-6 (Canceled)

Claim 7 (Previously Presented)

A method according to claim 1, wherein a computer is used for controlling, on the basis of the data obtained upon measuring, a print head which applies the binder to specific, desired positions.

Claim 8 (Previously Presented)

A method according to claim 1, wherein the binder is selected from the group consisting of colloidal silica, polyvinyl acetate (PVA), starch adhesives, acrylates, polyvinyl alcohol, polyethylene oxide (PEO), ethylenevinyl acetate (EVA) and derivatives thereof.

Claim 9 (Previously Presented)

A method according to claim 1, wherein the powder is a ceramic material, a metal, or a combination of metals and ceramic materials.

Claim 10 (Previously Presented)

A method according to claim 1, wherein the layers are applied with a doctor blade.

Claim 11 (Previously Presented)

A method according to claim 1, wherein the powder is applied in dispersed form.

Claim 12 (Previously Presented)

A method according to claim 11, wherein in a layer, the powder comprises powders of a different nature.

Claim 13 (Previously Presented)

A method according to claim 12, wherein in a layer, the powder comprises powders of a different color.

DRAFT - DO NOT ENTER

DRAFT - ⁴ DO NOT ENTER

Claim 14 (Previously Presented)

A method according to claim 11, wherein at least one layer differs in composition from the others.

Claim 15 (Previously Presented)

A method according to claim 12, wherein the powder is locally applied with a computer-controlled nozzle.

Claim 16 (Previously Presented)

A method according to claim 12, wherein at least one of the powders has an average particle size less than 50 nm.

Claim 17 (Previously Presented)

A method according to claim 1, wherein the dental element is sintered at a temperature of 400-800 °C for a period between 10 minutes and 3 hours.

Claim 18 (Previously Presented)

A method according to claim 1, wherein said infiltration is carried out with a glass-ceramic or a polymer material.

Claim 19 (Previously Presented)

A method according to claim 1, wherein the dental element is further shaped by grinding, filing, polishing, sanding, blasting or treatment with a ball bed.

Claim 20 (Canceled)

Claim 21 (Previously Presented)

A method according to claim 3, wherein the optical scan technique is a laser technique.

DRAFT - DO NOT ENTER

DRAFT- DO NOT ENTER

Claim 22 (Previously Presented)

A method according to claim 9, wherein the ceramic material is selected from the group consisting of SiO_2 , Al_2O_3 , K_2O , Na_2O , CaO , Ba_2O , CrO_2 , TiO_2 , BaO , CeO_2 , La_2O_3 , MgO , ZnO , Li_2O and combinations thereof.

Claim 23 (Previously Presented)

A method according to claim 9, wherein the metal is selected from the group consisting of alloys of gold, platinum, palladium, nickel, chromium, iron, aluminum, molybdenum, beryllium, copper, magnesium, cobalt and tin and combinations thereof.